

# **Virtual Monitor Wall System**

## ***Multi Source Video Display Processor***

### **User Manual**



# ***VIRTUAL MONITOR WALL SYSTEM***

## ***Multi-Image Video Display Processor***

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# Software User Manual

Cosmos V4

Revised: January, 2006

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## ***Warranty Statement***

Avitech International Corporation. (herein after referred to as "Avitech") warrants to the original purchaser of the products manufactured in its facility (the "Product"), that these products will be free from defects in material and workmanship for a period of one (1) year after installation or fifteen (15) months from the date of shipment of the Product to the purchaser.

If the Product proves to be defective during the one (1) year warranty period, the purchaser's exclusive remedy and Avitech's sole obligation under this warranty is expressly limited, at Avitech's sole option, to: (a) repairing the defective Product without charge for parts and labor; or (b) providing a replacement in exchange for the defective Product; or (c) if after a reasonable time is unable to correct the defect or provide a replacement Product in good working order, then the purchaser shall be entitled to recover damages subject to the limitation of liability set forth below.

***LIMITATION OF LIABILITY:*** AVITECH'S LIABILITY UNDER THIS WARRANTY SHALL NOT EXCEED THE PURCHASE PRICE PAID FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL AVITECH BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS FOR ANY BREACH OF THIS WARRANTY.

If Avitech replaces the defective Product with a replacement Product as provided under the terms of this Warranty, in no event will the term of the warranty on the replacement Product exceed the number of months remaining on the warranty covering the defective Product. Equipment manufactured by other suppliers and supplied by Avitech carries the respective manufacturer's warranty. Avitech assumes no warranty responsibility either expressed or implied for equipment manufactured by others and supplied by Avitech. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

This hardware warranty shall not apply to any defect, failure or damage:

A) caused by improper use of the Product or inadequate maintenance and care of the Product; B) resulting from attempts by other than Avitech representatives to install, repair, or service the Product; C) caused by installation of the Product in a hostile operating environment or connection of the Product to incompatible equipment; or D) caused by the modification of the Product or integration with other products when the effect of such modification or integration increases the time or difficulties of servicing the Product. Any Product which fails under conditions other than those specifically covered by the Hardware Warranty, will be repaired at the price of parts and labor in effect at the time of repair. Such repairs are warranted for a period of ninety (90) days from date of reshipment to customer.

### **Extended Warranty Options**

Avitech offers OPTIONAL Extended Warranty plans that provide continuous coverage for the Product after the expiration of the Warranty Period. Please contact an Avitech sales representative for details on the options that are available for your Avitech equipment.

### **Services and Repairs outside the Warranty Period**

Avitech make its best offer to repair products that is outside the warranty period, provided the product has not reached its end of life (EOL). The minimum charge for such repair excluding shipping and handling is \$200 US dollars.

## ***Disclaimer***

Use of this product is limited to the intended design purpose. Any damage caused by use other than the design purpose will void the above warranty.

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## ***Operating Environment***

Avitech video processing equipment should be operated in an environment that is safe for sensitive electronic equipment. It should not be placed in hot, dusty, or humid locations without adequate cooling, filtration, or ventilation.

## ***Overview***

The Media Command Center 8000 series (MCC-8000) is the most advanced virtual monitor wall system on the market today. From our extensive experience in providing solutions to various multi-monitoring environments, we designed the 8<sup>th</sup> generation packed full of features that are useful in any environment. By combining video, audio, and GPIO contact closures in the same box while maintaining the trademark distributed architecture found in all our hardware, we have designed the most flexible system that can be specified for both small and large installations. The hardware is fairly easy to setup and we do provide a connection diagram at your request. Please use this document as a guide to determine what you should get with your system, how to set it up, and also to perform any troubleshooting if necessary.

## **Cosmos is comprised of the following files and folders:**

- **b\_pic (Folder)**
- **AEC\_NTTC.dll**
- **Scan\_NetModules.exe**
- **Cosmos.exe**
- **MODULE\_IP\_ADRESS.ini**
- **DI\_ControlGroup.dll**
- **GDIPLUS.dll**

These files and folders should be placed in **C:\Avitech\_MCC\** and a shortcut to the executable should be created on the desktop of the Avitech Controller.

## ***Overview of the Steps***

To effectively control your Virtual Monitor Wall system with Cosmos, it is best to follow our recommended steps to setting up your system.

**Step 1:** Make sure the hardware is connected correctly (MCC-8000 Hardware Manual)

**Step 2:** Power on the controller

**Step 3:** Set the output resolution

**Step 4:** Configure multiple groups

**Step 5:** Run Cosmos

**Step 6:** Assign modules to display groups

**Step 7:** Configure the window layout

**Step 8:** Setup any optional features

**Step 9:** Save your work

**Step 10:** Shutdown Cosmos

**Step 11:** Backup the Cosmos folder

## ***Setting the Output Resolution***

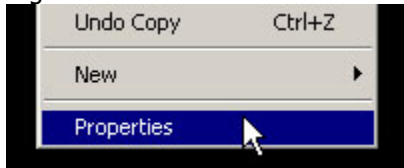
The Avitech VCC-C1R controller is set so that the default output resolution for each display group is 1024x768. If you want to change the output to something other than the default resolution, you will need to change the resolution in the windows display property menu. For 1600x1200 and non-standard modes,

you will need to set the options first in SetArray and then manually add the resolutions for non-standard modes.

We recommend you use single link DVI as the primary output along with a display that can support DVI. If you do not have a controller then you can use output resolutions ranging from 1024x768 to 1920x1200. Our modules currently do not support resolutions outside of that range. If you have a controller or cascading with VCC-2vIP modules, please contact us so we can advise you on how to configure the output to match your display.

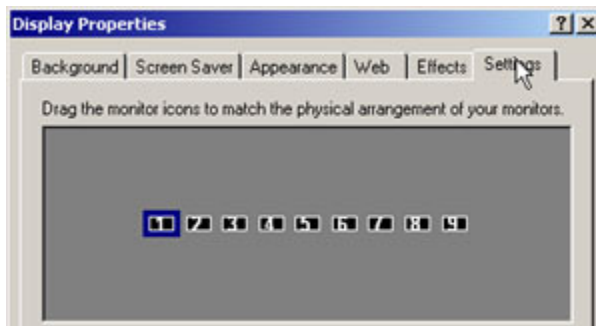
## To Change the Output Resolution (1024x768 or 1280x1024):

1. Right click on the controller desktop and select **Properties**

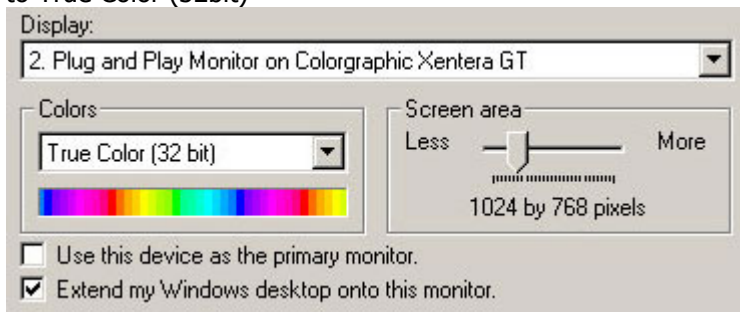


2. Choose the **Settings** tab and you should see either 5 or 9 numbered boxes

**Note:** Each monitor icon represents one of your group displays except for icon number one which is your control display. Icon number two is the first display in your virtual monitor wall system.



3. For each active display group, make sure that the **Display** says Plug and Play and **Colors** is set to True Color (32bit)



4. Move the slider for **Screen area** to 1280x1024. If you have mixed display groups, set each display to the specified resolution

**Note:** Make sure to set the control display and do not change the resolution afterwards

5. Select apply to make the selection and then select **OK** when prompted
6. To finalize the changes, select **Yes** when prompted
7. Select **OK** to exit the Display Settings menu

After completing this step, Cosmos will automatically detect the output resolution from the Colorgraphics Xentera GT4 card and automatically set the output resolution for each display group based on your settings.

## To Display 1600x1200 or Non-Standard Modes

To display higher resolutions and non-standard resolutions, you must follow the instructions below before configuring the Windows display properties. Non-standard resolutions include 1280x720, 1280x768, and 1366x768.

## To Enable 1600x1200 and Non-Standard Modes

1. Double-click on **SetArray** from the Windows taskbar



2. Highlight Monitor Icon #2

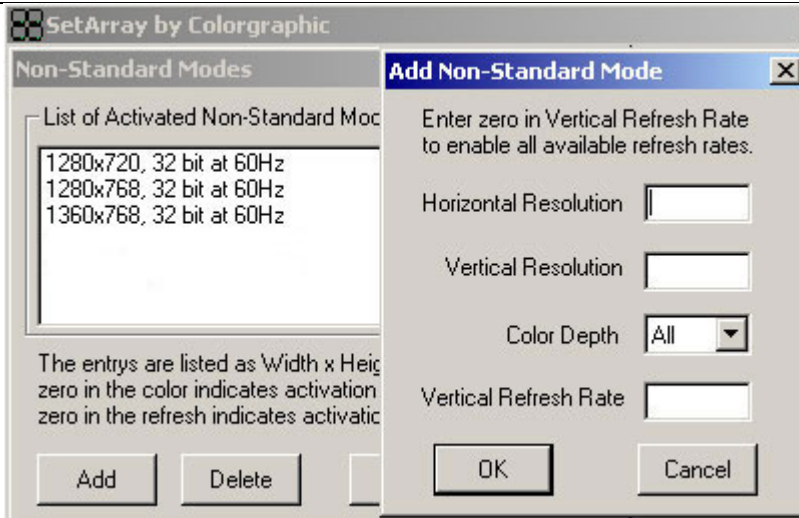
**Note:** Monitor icon #1 is the screen you are looking at. Monitor Icon #2 is the first group in your virtual monitor wall system. You must set the output of the second output to match the output resolution of your display.

3. Right click on monitor icon #2 and select **Advanced—Options**
4. Make sure the following is checked
  - a. Default Monitor supports up to 1600x1200
  - b. Use last selected theme

**Note:** This is all you have to do for 1600x1200 resolution.

5. Select **OK** to exit the Display Options menu
6. Right click on monitor icon #2 and select **Advanced—Non Standard Modes**
7. Select **Add** and then enter in the information for the desired resolution



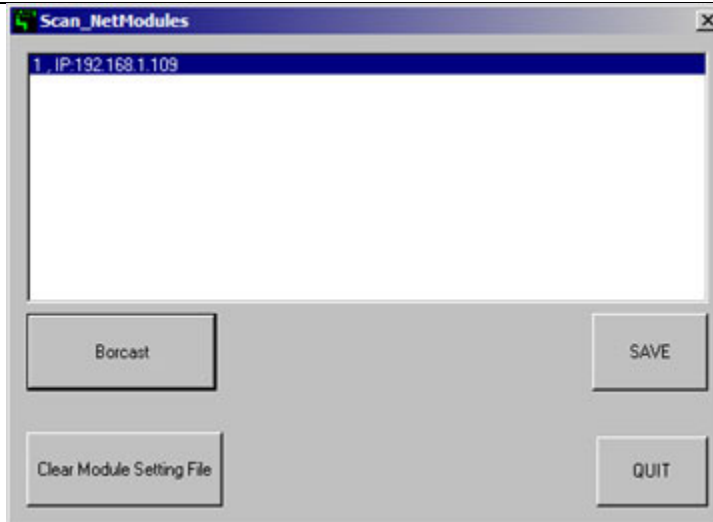


8. We support the following:
  - a. 1280x720
  - b. 1280x768
  - c. 1360x768 (used for 1366x768)
9. Select **OK** to add the resolution
10. Select **Save** to exit the Non-Standard Modes menu
11. If you have multiple display groups, repeat steps 2-10 for each additional monitor icon
12. Select **Apply** and then **OK** to exit the SetArray menu
13. Make sure all the DVI cables are connected and restart Windows for changes to take affect and for Plug and Play to detect
14. Follow the directions in the previous section to set the output resolution in Windows Display Properties

**Note:** You should now be able to select 1600x1200 and the non-standard modes that were added.

## Starting Cosmos for the First Time:

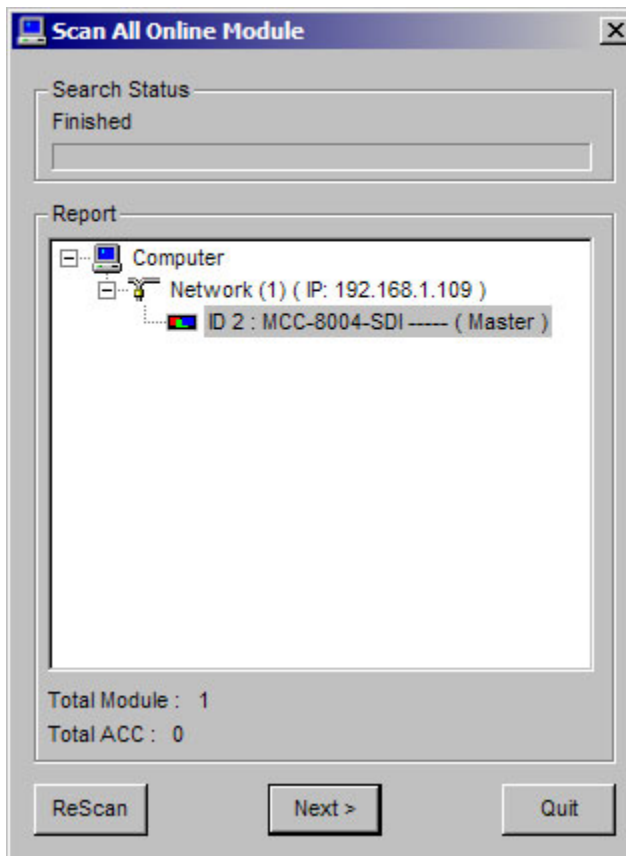
1. Double click on **Scan\_NetModules.exe** to launch the application
2. Select **Broadcast** to detect all active IP addresses
3. Select **Save** and **OK** when prompted



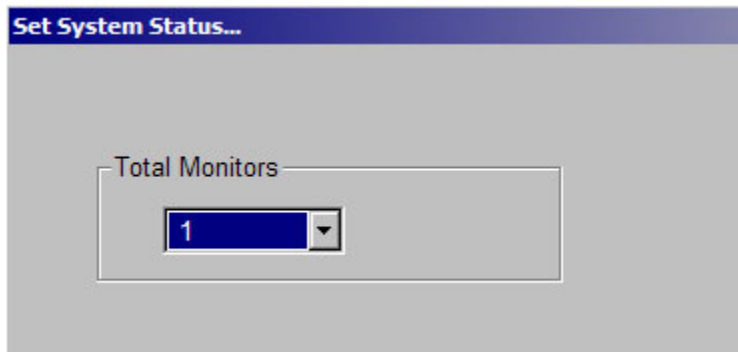
4. Double click on **Cosmos.exe** to launch the application

**Note:** The software will use the IP addresses detected in step 2 and find all modules connected to that IP address.

5. If Cosmos correctly detects all available modules, select **Next** to continue



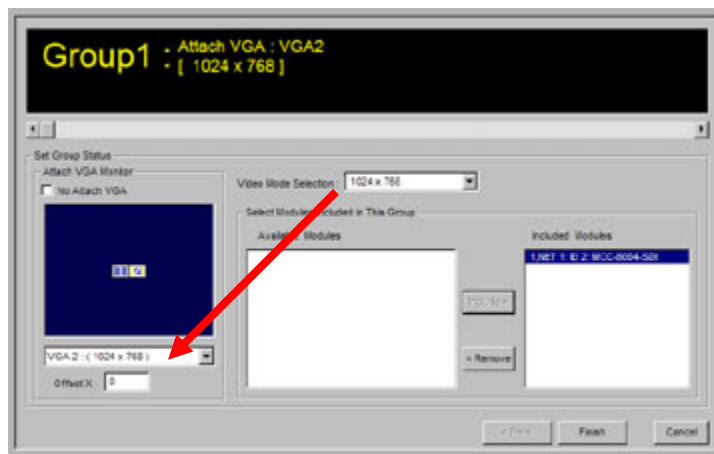
6. At the **Set System Status** menu, select the number of display groups you have physically setup
7. Select **Next** to continue



8. At the **Group 1** setup screen, assign modules to group 1 starting with IP210.100.100.151 ID1

**Note:** This should match how the hardware is physically wired and connected. If you have only one group then add all the modules to Group 1.

9. Make sure to uncheck **No Attach VGA** and that monitor icon 2 is highlighted in yellow
10. Select the output resolution from the drop down menu, this should match the resolution for VGA 2
11. Select **Next** to continue the setup for the next group



12. Repeat steps 8-11 for each additional group
13. Select **Finish** on the last group menu to complete the group assignment process
14. When prompted, select Yes

**Note:** At this point, Cosmos will show a progress bar while it initializes all the modules. The more modules you have the longer this will take.

15. At the **Set Monitor Type** menu, select **OK** to continue

**Note:** This menu is useful if you have many display groups and need a map to see the location of each display. Setting the screen size and aspect ration in this menu does not affect the output resolution or aspect ratio.

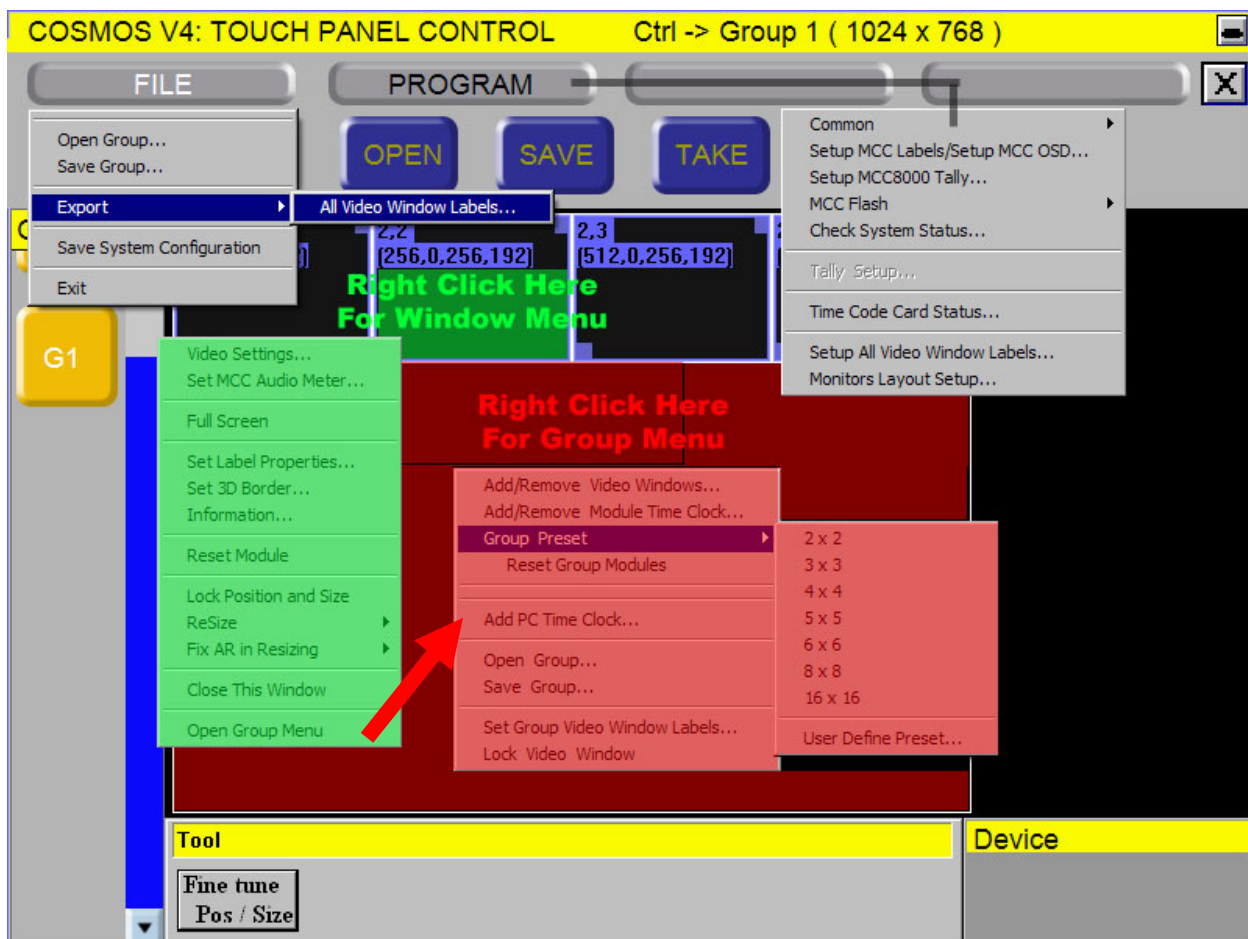
Once you start Touch Panel Control menu appears, you will see a large box with a number in the center for each display group. Click on the box to control that group. This is the global view of your virtual monitor wall system and you can quickly return to this view by selecting ALL from the group selection menu on the left side of the control window. You can also quickly select a group by clicking G# where # is the group number. From here, you can use our simple graphical user interface to configure the layout

of all your group displays. You can save different presets to be recalled later on and also save the system configuration so the same layout will load each time you start up the software. It is also a good idea to back up the entire Cosmos folder once you are done with the initial setup so that you have something to fall back on if there is a catastrophic failure.

## ***Navigating in Cosmos***

Cosmos has a three level menu hierarchy and three operating modes that allow the user to control all aspects of the Virtual Monitor Wall System. This division allows the user to control a wide range of features from a global view where every group is affected to the window view where only a single video window is affected. The flexibility in control allows greater freedom in laying out a display group. These three levels of menus include the following:

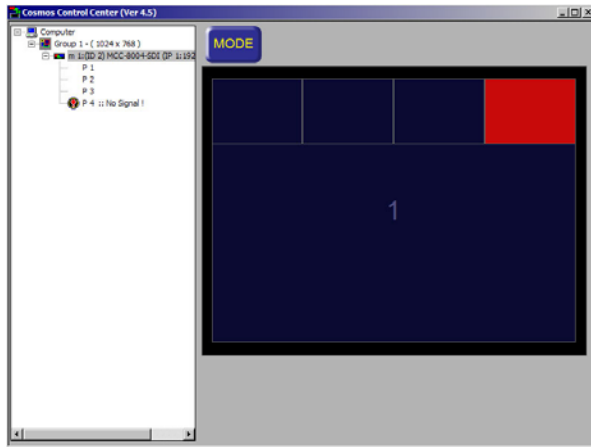
- **System Menu**
- **Group Menu**
- **Window Menu**



**Note:** when you have windows covering the entire display area, you will not be able to right click in the display area to access the group menu. When this happens, right click on a window to access the window menu and then select Show Group Menu to access the group menu.

New to Cosmos V4 is the mode menu, which gives three operating modes for the software. These modes include the following:

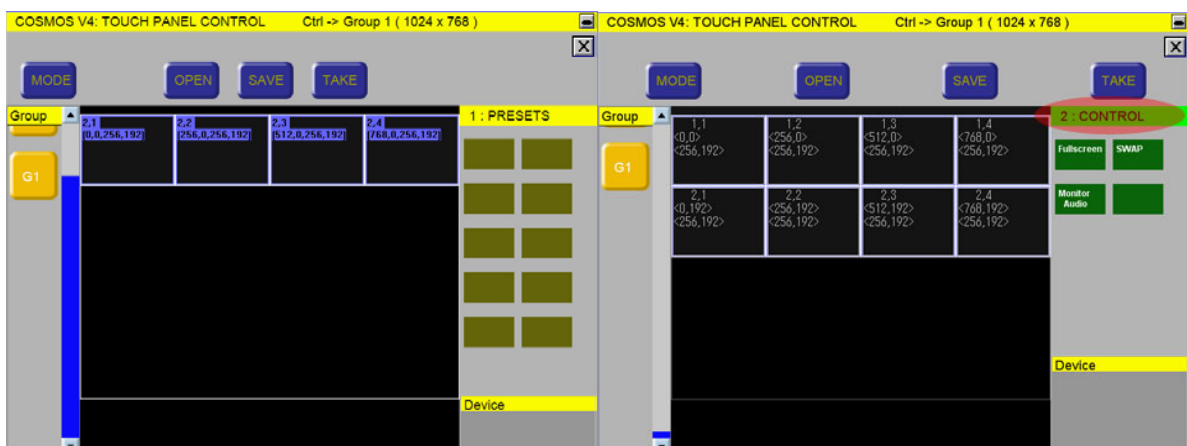
- **System Status:** This mode allows users to view the status of their monitor wall, video warnings must be turned on for this mode to work correctly.



- **Layout Control:** This mode allows users to make changes to the layout.



- **Touch Control:** This mode allows users to load presets using a touch screen, additional commands include Full Screen, Swap Window, and Output Audio, to switch between 1. PRESETS and 2. CONTROL, double click on the Presets or Control bar.



## ***Starting from Scratch***

If you did not configure Cosmos correctly the first time, you will need to start over from scratch. This is also helpful if you need to change the output resolution.

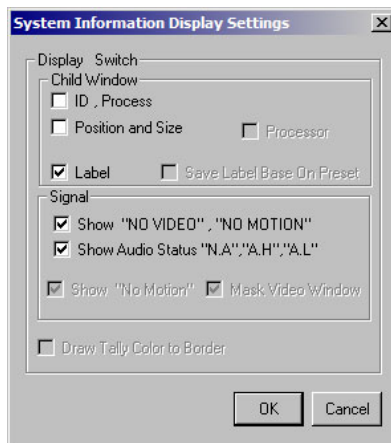
### **To start over from scratch:**

1. If you have saved group presets:
  - a. Select **OPEN** from the Touch Panel Control Menu
  - b. Select **Clear All** from the top right hand corner
  - c. When prompted, select **Yes**
2. Select **Program—MCC Flash—Clear All System Files**
3. Select yes for the first prompt
4. Select yes for the second prompt to exit the software
5. Double click on Cosmos.exe to start the software from scratch

After doing this, follow the directions in the section Starting Cosmos for the First Time to setup the display groups.

## ***Displaying Information***

When you first start Cosmos, certain information might be on the group display such as audio meters, labels, borders and video/audio warnings. You can choose to turn these on/off using Cosmos. This should be done first before proceeding. The ID, processor, position, and size information located on the top right hand corner of each video window cannot be turned off.



### **Turn ON/OFF Labels:**

1. Select **Program—Common—Information**
2. Make sure label is checked and select **OK** to continue
3. Labels should now be on your group display

**Note:** Some labels will overlap under other video windows below it and will not show up until you reposition the video window.

4. To turn off labels, just uncheck **label**

## Turn ON/OFF Video/Audio Warnings:

1. Select **Program—Common—Information**
2. Make sure the following are checked and select OK to continue
  - a. Show NO Video, NO Motion: for warning to appear if signal is not there or if there is a freeze in the signal
  - b. Show N.A., A.H., A.L.: for no audio
3. Warning messages should be on your group display
4. To turn off NO Video or NO Motion, just uncheck it in the Information menu

## Turn ON/OFF Audio Meters:

1. **Select Program—Common—Set MCC8000 Audio Meter**
2. There are four meters available for embedded audio and for each meter, there is the left channel (L), phase (P), and right channel (R)
3. Select the ones you want to display or select **Show All** to display all meters
4. Select **OK** to continue or **Cancel** to discard changes
5. To turn off audio meters, reverse the previous steps

You will also see the ID and Processor information on the top right hand corner of each video window. This cannot be turned off and is useful in determining input and module number the signal is coming from.

## *Choosing Display Groups*

If your Virtual Monitor Wall system is comprised of more than one group, you can use the group icons on the left side of Cosmos Touch Panel Control to jump from group to group. If you need to see an overview of your entire system, select ALL. If you want to organize the position of each display group you can do that in the monitor layout setup menu.

## To Organize the Position of Each Group Display:

1. Select **Program—Monitor Layout Setup**
2. There should be a monitor icon for each display group, start with the first group and drag the icon to a position relative to the location of the user
3. You can also set information for the display such as its size and its physical aspect ratio

**Note:** This does not affect the output of the group.

4. Repeat for each group
5. Select **OK** to finalize changes or **Cancel** to discard changes

By configuring the layout of each physical group display, you can easily see its location in the global view.

## ***Positioning and Resizing the Video Window***

To position and size of each video window, you can drag the window to the desired position or drag the border of each window to the desired size. There are several useful commands that will help you quickly setup all the windows in a group to a desired size. The most important button in the entire software is the TAKE command. Make sure to select this after each action to update the group display so it matches the control menu. **DO NOT OVERLAY WINDOWS ON TOP OF EACH OTHER.**

### **To Take an Action:**

The take command is the most important and most often used button in Cosmos V4. It is essentially the same as selecting F5 to update the group display commonly used in previous version of Cosmos. You will need it to up date changes from the control monitor to the group display. This includes changes in position, size, and other options. We recommend you select take after each command to ensure that the group display is updated.

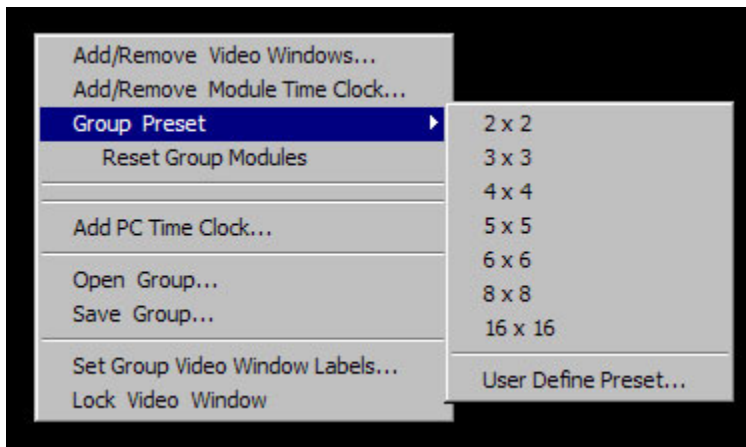


### **To Quickly Organize Group Windows:**

1. Select **Group Preset** from the group menu
2. Select either 2x2, 3x3, 4x4, or 5x5

**Note:** We do not recommend any layouts greater than 5x5.

3. This will automatically organize your video windows to the specified window arranges with the first number being the number of windows displayed horizontally and the second number being the number of windows displayed vertically



### **To Resize an Individual Window:**

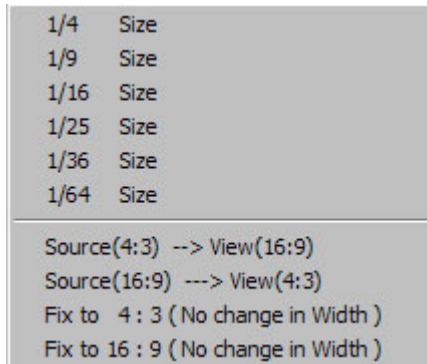
1. Right click on a window and select **Resize**
2. Select either 1/4, 1/9, 1/16, or 1/25



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**Note:** We do not recommend any layouts smaller than 1/25.

3. To fix the aspect ratio, please follow the directions in the next section



## To Fix the Aspect Ratio:

1. Right click on a window and select **Fix AR in Resizing**
2. Select either None, 1:1, 4:3, or 16:9
3. Change the width of the selected window and the height should adjust based on your previous selection

**Note:** If you use Group Preset or Resize feature, the aspect ratio will not stay fixed, this only works for manual resizing of the width only.

## To Fine Tune the Position and Size:

1. Select **Fine Tune Pos/Size** from the tool menu on the bottom of the Touch Panel Control menu
2. Select a window and use the X and Y to change the position and the W and H to change the size of each window

**Note:** Our system is designed so that each window increases in width and height based on a certain number of pixels. For example, for composite windows will increase in width by 16 pixels and increase in height by 2 pixels.

3. Select OK to finalize changes and then Take to update the group display



## To Maximize a Window to Full Screen:

There are two methods to make a window full screen, you can either right click on the window and select Full Screen or move your cursor to the top right hand corner of the window until the Cursor turns to a capital F. Left click when the cursor becomes an F and the window will become full screen. To revert back from full screen, just right click on the window again and select Full Screen or move the cursor to the top right hand corner of the window until it becomes a capital R. Left click when the cursor is an R and the window will revert back from full screen.

With the MCC-8004a and MCC-8004d series, there are limitations on the resolution of a full screen image. At 1600x1200 or higher output resolution, the full screen image will not completely fill the screen. This is a limitation in the hardware and cannot be overcome. The MCC-8004P and MCC-8004U series has advance de-interlacing technology which is most effective during full screen mode; therefore, it does not have the same limitation as the lower end series.



## To Swap a Window:

The swap feature is useful if you have a large window surrounded by many smaller windows and you want to quickly take the contents of one of the smaller windows to the bigger one. This can easily be done by moving the cursor to the bottom left hand corner of the window until the cursor becomes a

capital S. Left click once and the cursor will become a capital S until you click again. Move the cursor to where you want to swap the window to and left click. Doing so will swap the contents of the original window with the new window.



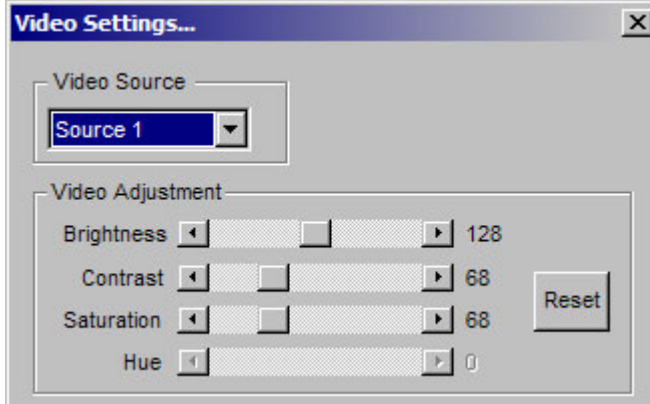
## To Turn Off a Window:

If there are windows with no signals and need to be removed, you can close the window by right clicking on the window and selecting Close This Window followed by the Take command. This will remove the window. To open the window again, select Add/Remove Video Windows from the Group Menu and check the windows you want to add. All previously closed windows will be unchecked and after you check the windows you want to open, select OK to finalize changes. All new windows will appear on the top left hand corner of the display so if a window is already there, you will have to reposition the windows to make room for the ones that were newly added.

After closing a window, you can have them available in the Available Processor menu. This feature allows users to drag and drop the windows in queue to the workspace so they can quickly be opened. To access this menu, select TOOLS—Available Processor from the system menu and the menu will appear on the bottom of the screen.

## To Change the Video Setting:

1. Right click on a video window and select **Video Settings**
2. Under **Video Source**, you can make the window display the source of any input on the unit
3. For VCC-2vIP modules, you can choose to display either the **VGA** or **DVI** signal
4. Under **Video Adjustments**, you can adjust the settings such as **Brightness**, **Contrast**, **Saturation**, and **Hue** by moving the sliders left and right
5. If you want to revert to default settings, select **Reset**
6. The **Auto VGA Adjustment** is for VGA sources only
7. Select **OK** to finalize changes or **Cancel** to discard changes



## To Lock Video Windows:

1. Select **Lock Video Window** from the group menu to lock an entire group
2. Select **Lock Position and Size** from the window menu to lock a single window

Once you have locked the video windows, you will not be able to move or resize them. To un-lock the video windows, just follow the steps to lock the video windows to undo the process.

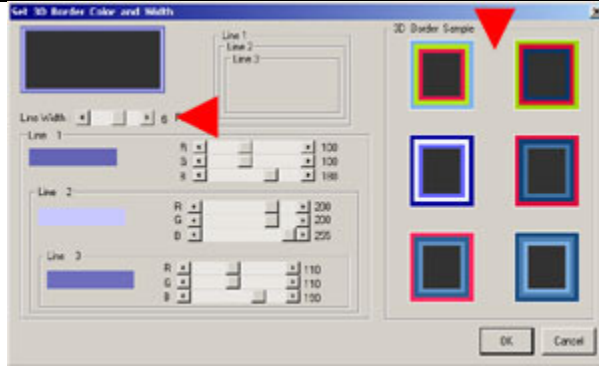
## OSD Features

The main OSD features of the MCC-8000 series include the following:

- 3D Borders
- Labels
- Clocks
- Audio Meters
- Tally

## Changing the 3D Border:

1. Select **Program—Common—Set 3D Border** from the system menu
2. From the **Set 3D Border Color** and **Width** menu, you can select one of the sample borders to use or create your own unique border by setting the RGB values for each of the three lines that make up the border
3. To completely turn off all the borders, move the **Line Width** slider to 0 Pixel
4. Select **OK** to finish or **Cancel** to undo any changes
5. This will change all the borders on all the windows in every display group
6. To change the border color of a single window, right click on the window and select **Set 3D Border**
7. Make sure to select **Take** to update the group display



## Labels

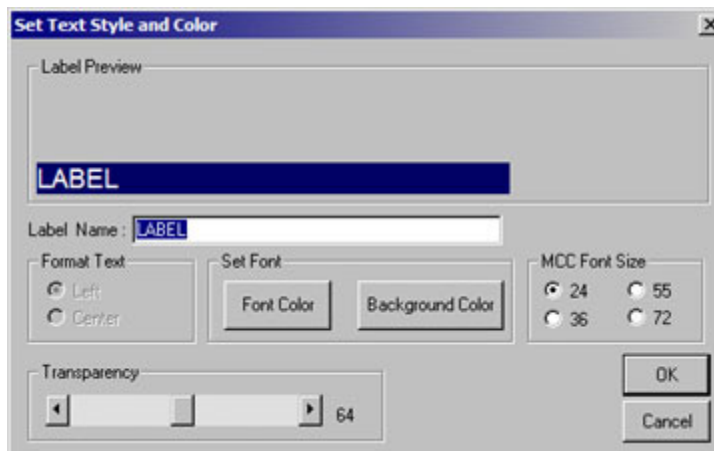
With the MCC-8000 series modules, labels are completely drawn by the OSD of the module. Just like the borders, you can adjust the label properties of the entire system or of a single window.

### Enabling Labels:

1. Select **Program—Common—Information** from the system menu
2. Make sure Label is checked and select **OK**. Labels should now appear on your display

### Changing Group Label Properties for MCC-8000 Series Modules:

1. Select **Program—Common—Set Label Properties (MCC Font)...** from the system menu
2. From the **Set Text Style** and **Color** menu, you can change the following:
  - a. Font Style and Color
  - b. Background Color
  - c. Font size 24, 36, 55, and 72
  - d. Transparency level
  - e. Label Outside of the Window SW: makes the label beneath the video instead of on top of it, this will not crop or take away from the image
3. Select **OK** to finish or **Cancel** to undo any changes



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## Changing Group Label Properties for VCC-IP Series Modules:

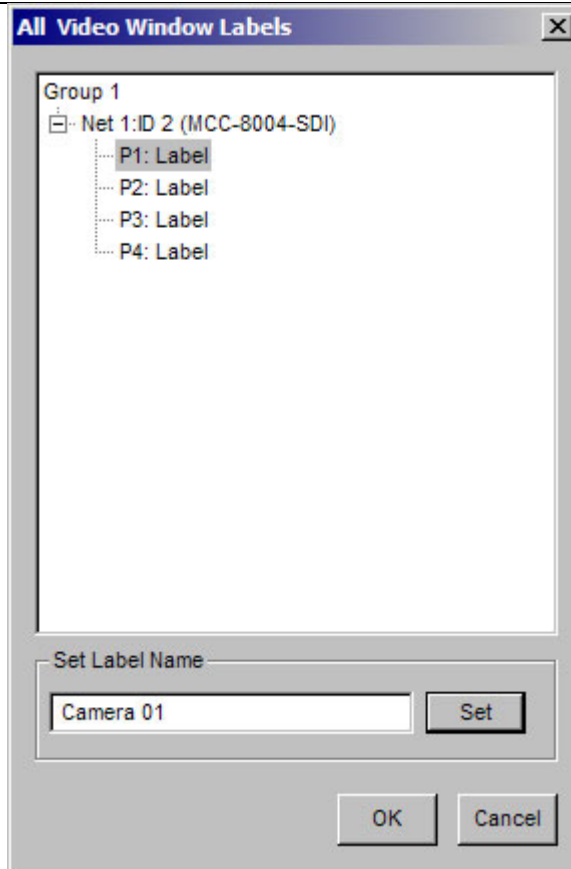
1. Select **Program—Common—Set Label Properties (PC Font)...** from the system menu
2. From the **Set Text Style** and **Color** menu, you can change the following:
  - a. Left or Center justification of the text
  - b. Font Style and Color
  - c. Background Color
  - d. Font size 24, 36, 55, and 72
  - e. Transparency level
3. Select **OK** to finish or **Cancel** to undo any changes

## Changing Window Label Properties:

1. Right click within the selected window and select **Set Label Properties...** from the window menu
2. From the **Set Text Style** and **Color** menu, you can change the following:
  - a. Set Window Label
  - b. Left or Center justification of the text
  - c. Font Style and Color
  - d. Background Color
3. Select **OK** to finish or **Cancel** to undo any changes

## Entering Group Labels:

1. Select **Set Group Video Window Labels** from the group menu
  - a. Make sure labels are turned on
2. The **All Video Window Labels** menu will display a list of windows arranged by Network ports, module ID numbers and finally processor numbers
3. Select the processor you want to rename and enter the new name into the **Set Label Name** dialog box
4. Select set to move onto the next processor until all the processors in the group have been relabeled
5. When you are done setting all labels for a group, select **OK** to finish or **Cancel** to undo any changes



## Entering System Labels:

1. Select **Program—Set All Video Window Labels**
  - a. Make sure labels are turned on
2. The **All Video Window Labels** menu will display a list of groups followed by Network ports, module ID numbers and finally processor numbers
3. Select the processor you want to rename and enter the new name into the Set Label Name dialog box
4. Select set to move onto the next processor until all the processors in the system have been relabeled
5. When you are done setting all labels for a group, select **OK** to finish or **Cancel** to undo any changes
6. To update changes, select a different group and then back to the original group

## Export and Importing Labels:

1. To export labels to a text file, select **File—Export—All Video Labels**
2. Find a location for the file and name it
3. Select **Save** to finish or **Cancel** to undo any changes
4. To import the labels, select **Program—Set All Video Window Labels**
5. Select **Import Text File**
6. Locate the file and select **Open**

7. When you are done setting all labels for a group, select **OK** to finish or **Cancel** to undo any changes
8. To update changes, select a different group and then back to the original group

## ***Displaying Clocks***

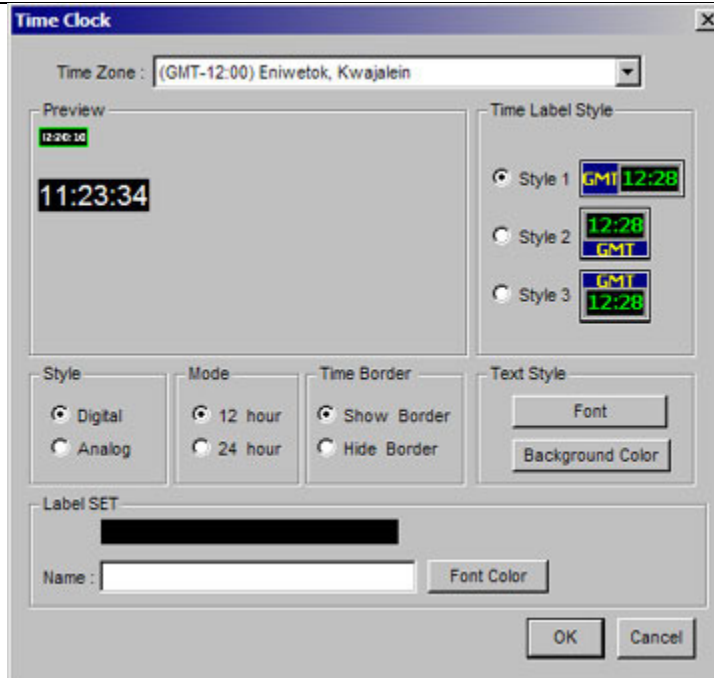
Currently, you can display an analog or digital Time Clock, and a Count Clock with the aid of an Avitech Controller. The count clock is generated by the MCC-8000 series module and can be used to show time in a digital format as well. Time clocks are used to show time and you are able to set the time based on the computer time (Windows) or from an external source (requires LTC or VITC card). Count clocks are used to show a digital count up or count down timer.



## **To Display a Time Clock:**

1. Select **Add PC Time Clock** from the group menu
2. Change the following options to fit your needs:
  - a. **Time Zone:** (It is recommended that you set this to the next time zone if you are in an area using daylight savings time)
  - b. **Label Style:** There are three styles to display the label with the time clock
  - c. **Style:** Digital or Analog clock
  - d. **Mode:** 12 or 24 hour time
  - e. **Time Border:** Choose to show or hide the border
  - f. **Text Style:** Choose the font style and the background color
  - g. **Label Set:** Type in the font and select the font color
3. Once all the options have been set to fit your needs, select OK to finish or cancel to discard all changes
4. If the Time Clock shows up on top of a video window, move it to an area where it does not sit on top or below a video window and select Take to refresh the display



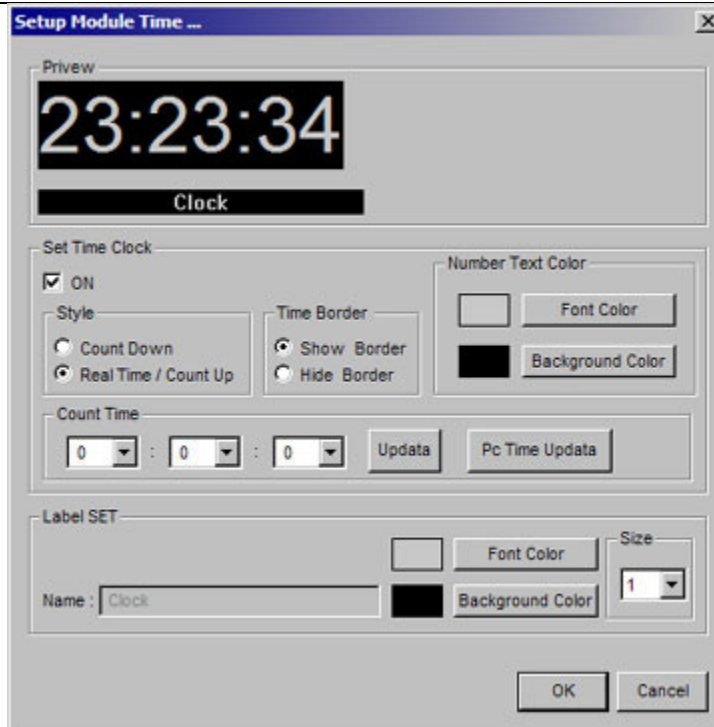


## To Display All MCC-8000 Clocks:

1. Select **Program—Common—Set MCC-8000 Time Clock**
2. Make sure on is checked, this will turn on one clock for every MCC-8000 series module you have
3. Change the following options to fit your needs:
  - a. **Style:** Count Down or Real Time/Count Up clock
  - b. **Time Border:** Show or Hide border
  - c. **Number Text color:** Change the color for the analog numbers
  - d. **Count Time:** Enter a count down time and select update or sync the clock with the PC
  - e. **Label Set:** Change the color and size for the clock label

**Note:** this must be done in the individual clock menu

  - f. **Text Style:** Choose the font style and the background color
  - g. **Label Set:** Type in the font and select the font color
4. Select **OK** to finish or **Cancel** to discard all changes



**Note:** MCC-8000 Clock cannot sync to the LTC or VITC time code card on the controller.

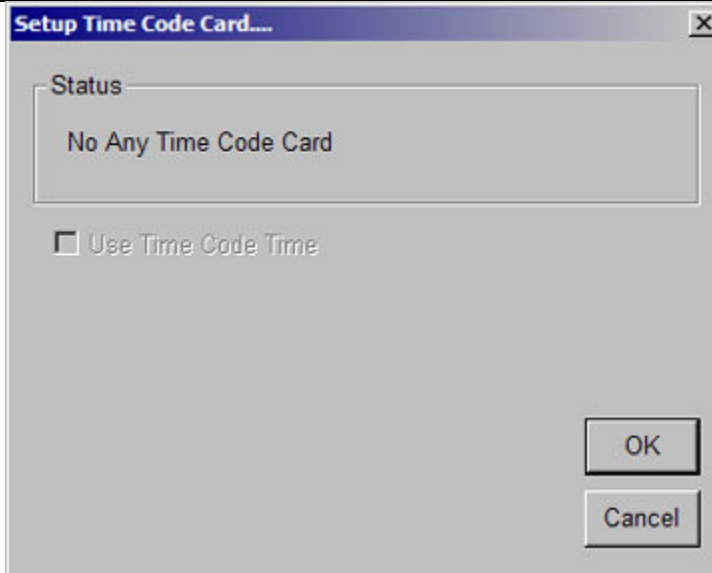
To Add or Remove MCC-8000 Clock, select ADD/Remove Module Time Clock from the group menu.

## ***Time Code Card***

The time code card allows user to display the house time on the digital or analog clock that you can create using Cosmos. Keep in mind that if you are not using the Avitech controller, you will not be able to create a clock on your group display.

### **To Use the Time Code Card:**

1. Select **Program—Time Code Card Status**
2. Select **Use Time Code Card**
3. Select **OK** to finish or **Cancel** to discard all changes



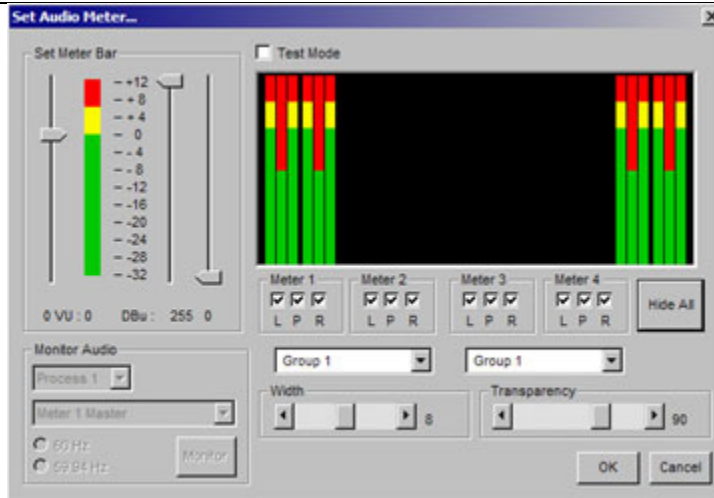
**Note:** Only the PC time clock can display house time from a time code card.

## ***MCC Audio Meters***

With the MCC-8000 series modules, audio meters are generated by the module and appear to the left and right of the video window. New features include setting the transparency of the meter and also phase detection.

### **To Display Audio Meters for all Groups:**

1. Select **Program—Common—Set MCC8000 Audio Meters**
2. There are nine check boxes below the black box in the menu, select the meters you want to display or choose **Show All** to display all the meters available
3. For Stereo Analog and AES audio meters, all you have to check are L, P, and R for meter 4, and also make sure to select AES/AA from the second drop down menu
4. Under **Width**, select the width for each audio meter
5. Under **Transparency**, select the value to set the level of transparency
6. Once all the options have been set to fit your needs, select **OK** to finish or **Cancel** to discard all changes



To change an individual audio meter, right click on the window and select Set MCC Audio Meter. The menu for this will be the same as above.

## To Assign Audio Groups:

Audio groups are useful if you plan to output the audio to an external source. With this feature, you can control whether all the modules in your system output to a single speaker or if there are multiple speakers forming multiple audio groups. You can make each display group an audio group or you can select specific modules from different display groups to form an audio group, or you can create one audio group for the entire system. Just make sure that the audio input and outputs on the module are physically cascaded to match the software. Keep in mind that the module outputs AES/EBU audio from a BNC connector.

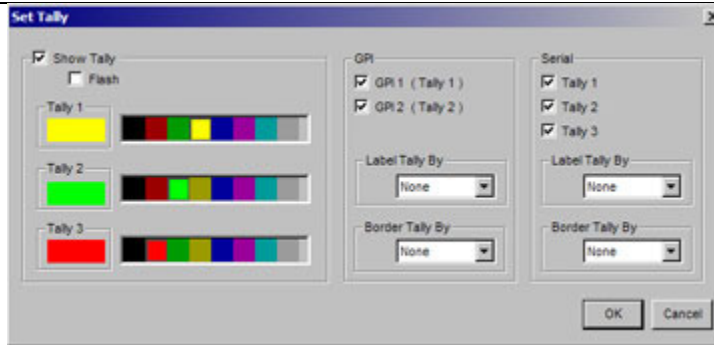
## Tally

A new feature with the MCC-8000 series modules is the addition of onboard GPI contact closures. There are eight contact closures available for tally. The tally feature is on by default so all you have to do is close the contact to activate the tally. Contact closures are set as follows:

- Contact 1, 2: Tallies for Processor 1/Input 1
- Contact 3, 4: Tallies for Processor 2/Input 2
- Contact 5, 6: Tallies for Processor 3/Input 3
- Contact 7, 8: Tallies for Processor 4/Input 4

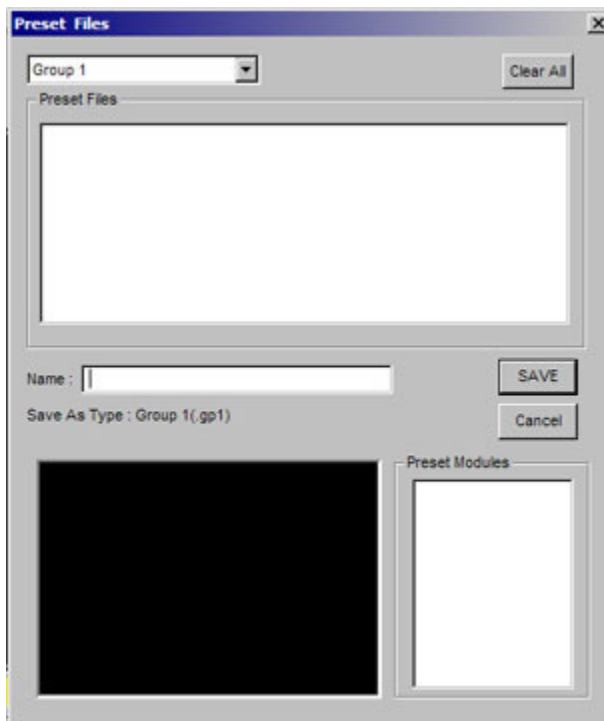
## To Change the Tally Options:

1. Select **Program—Setup MCC8000 Tally**
2. Change the following options to fit your needs:
  - a. **Flash**: Makes the Tally blink on and off
  - b. **Label Tally By**: Changes the label background color to the color of the Tally selected
  - c. **Border Tally By**: Changes the window border color to the color of the Tally selected
3. Select **OK** to finish or **Cancel** to discard all changes



## ***Saving Your Work***

The MCC-8000 series module has internal flash memory for storage of up to 27 preset/layouts. This allows the presets to be recalled even if the controller is not available. There is also a System file that loads every time the module is powered on. If you want a specific preset/layout to be the default, then you must save it to the flash. Different presets can also have different sets of labels so you can load different presets with different static labels for the same window. These features allow users to save the presets they spent their time creating and also allow different users to share a single system for different applications.



## **To Save a Group Preset:**

1. Select the **SAVE** button or **File—Save**
2. Enter in a unique file name
3. Select **Save** to finalize changes or **Cancel** to discard changes

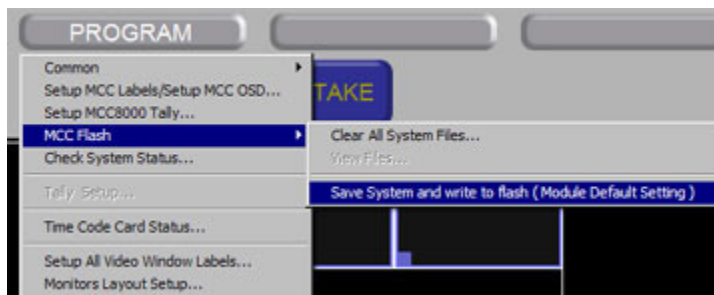
4. You will see a progress bar showing the preset being saved to the module's internal flash memory

## To Load a Group Preset:

1. Select the **Load** button or **File—Load**
2. Select the file you want to load
3. Select **Open** to load the file or **Cancel** to discard changes

## To Save to System Default:

1. Load or create a preset that you want to display as default
2. Select **Program—MCC Flash—Save System and write to flash (Module Default Setting)**
3. You will see a progress bar indicating the save process
4. If you have a VCC-2vIP module, it is also a good idea to select **File—Save System Configuration**
5. Select **Yes** when prompted to save upon exiting Cosmos



## Backing up Data

Once the system is completely setup, it is a good idea to make a backup of your hard work. The easiest way make a backup is to copy the entire folder **C:\Avitech\_VCC** or **C:\Avitech\_MCC**. This folder contains everything you will need to bring the system back up and running if there is a catastrophic failure. Although a failure of this magnitude rarely ever happens, it is still a good idea to follow this contingency plan in case of emergencies. The easiest way to backup the files from the controller is to use a USB drive with at least 1GB of memory to insert in the controller's USB port. Then transfer the files to a computer with a CDR drive burn the files on a CD and keep it in a safe location. The CD will contain the software, all saved presets/system configuration files, and also the drivers/updates for the controller. When restoring a system, it is best to contact Avitech's technical support department for assistance. If you constantly add new presets to your system, it is a good idea to backup the data every few weeks.

## Touch Control Mode

This mode allows administrators to setup presets and give their operators a simple control interface to make minor changes to the virtual monitor wall system. In touch control mode, the user is given four basic commands to control the layout. They include loading presets, maximizing an image to full screen, swapping images, and outputting audio. This is to prevent someone not familiar with the system to make critical changes to the layout and configuration. Most of the advanced privileges have been removed for a simple touch interface to perform basic tasks.

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## To Maximize an Image to Full Screen:

1. Select the Full screen button
2. Highlight the window you want to make full screen
3. Select **Take** to maximize the window to full screen
4. Select **Take** a second time to resume back to the previous layout

## To Swap a Window:

1. Select the SWAP button
2. Highlight two window you want to swap
3. Select **Take** to swap the windows

## To Output Audio:

1. Select the Monitor Audio button
2. Highlight the window with the audio you want to output
3. Select the Meter you want to output
4. An audio icon should appear on the top left hand corner of the window

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## ***Technical Support***

For troubleshooting, RMAs, and Upgrades, please contact the number below and ask for a technical support representative to help you out.

**Toll Free: (877) AVITECH (284-8324)**

**Phone: (425) 885-3863**

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Redmond, WA 98052

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Email: [support@avitechvideo.com](mailto:support@avitechvideo.com)

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